

Title (en)  
TOROIDAL LIFT FORCE ENGINE

Title (de)  
TOROIDALHUBKRAFTMASCHINE

Title (fr)  
MOTEUR À FORCE DE LEVAGE TOROÏDAL

Publication  
**EP 4111052 A1 20230104 (EN)**

Application  
**EP 21713513 A 20210226**

Priority  
• US 202062982421 P 20200227  
• US 2021019925 W 20210226

Abstract (en)  
[origin: US2021270230A1] A toroidal lift force engine is provided. Illustratively, the toroidal lift force engine operates in an enclosed environment without heat and/or expelling particles of any kind, utilizing asymmetric pressure distribution on lift turbine blades solely to generate thrust with the normal component of this lift force, while using the tangential component of this lift force to drive accessories, provide control to the fluid velocity, and/or provide motivation of the fluid's flow. The toroidal lift force engine may be utilized to generate thrust, heat and/or electricity for powering vehicles, homes, etc.

IPC 8 full level  
**F03D 1/06** (2006.01)

CPC (source: EP US)  
**F01D 5/021** (2013.01 - US); **F01D 13/00** (2013.01 - US); **F01D 13/003** (2013.01 - US); **F01D 13/006** (2013.01 - US); **F01D 13/02** (2013.01 - US); **F03B 3/02** (2013.01 - US); **F03B 3/04** (2013.01 - US); **F03B 3/12** (2013.01 - US); **F03B 3/18** (2013.01 - US); **F03D 1/02** (2013.01 - US); **F03D 1/0633** (2013.01 - US); **F03D 1/065** (2013.01 - EP); **F03D 3/02** (2013.01 - US); **F03D 7/0276** (2013.01 - US); **F03D 13/10** (2016.05 - US); **F05B 2210/16** (2013.01 - EP); **F05B 2240/374** (2020.08 - EP); **Y02B 10/30** (2013.01 - EP); **Y02E 10/72** (2013.01 - EP); **Y02E 10/74** (2013.01 - EP)

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Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**US 11781521 B2 20231010**; **US 2021270230 A1 20210902**; AU 2021227962 A1 20220818; BR 112022016754 A2 20221018; CA 3170512 A1 20210902; CN 115398097 A 20221125; EP 4111052 A1 20230104; JP 2023515611 A 20230413; WO 2021174011 A1 20210902

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**US 202117186739 A 20210226**; AU 2021227962 A 20210226; BR 112022016754 A 20210226; CA 3170512 A 20210226; CN 202180031374 A 20210226; EP 21713513 A 20210226; JP 2022552194 A 20210226; US 2021019925 W 20210226